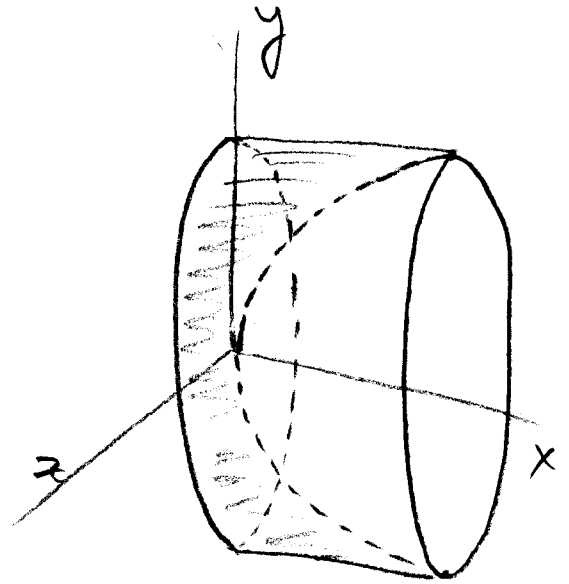
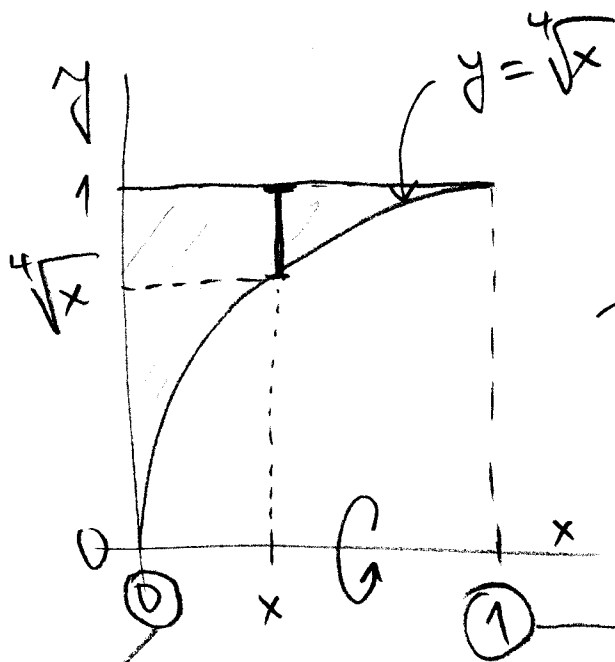


5.2/23



The cross-section with a plane perpendicular to the  $x$ -axis and passing through the point  $(x, 0, 0)$  is an annulus with inner radius  $\sqrt[4]{x}$  and outer radius 1, so the area of this cross-section is

$$A(x) = \pi \cdot 1^2 - \pi \cdot (\sqrt[4]{x})^2 = \pi(1 - \sqrt{x})$$

and, therefore, the volume is

$$V = \int_0^1 A(x) dx = \int_0^1 \pi(1 - \sqrt{x}) dx$$